UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/716,960	11/21/2000	Michael Brines	10165-009-999	6595

20583 7590 02/01/2007

JONES DAY
222 EAST 41ST ST
NEW YORK, NY 10017

EXAMINER	
DEBERRY, REGINA M	
ART UNIT	PAPER NUMBER
1647	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

TH

Office Action Summary	Application No.	Applicant(s)	
	09/716,960	BRINES ET AL.	
	Examiner	Art Unit	
	Regina M. DeBerry	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,9,11-15,17-20 and 22-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,9,11-15,17-20 and 22-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Status of Application, Amendments and/or Claims

The amendment filed 08 November 2006 has been entered in full. Claims 7, 8, 10, 16, 21 and 27 are cancelled. Claims 1-6, 9, 11-15, 17-20, 22-26 are pending and under examination.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Withdrawn Objections And/Or Rejections

The rejection to claims 1-6, 8, 9, 11, 15, 17-23 under 35 U.S.C. 103(a) as being unpatentable over Friedman *et al.,* American Journal of Kidney Disease, July 26(1):202-8 (1995), as set forth at pages 2-4 of the previous Office Action (08 May 2006), is *withdrawn* in view of the amendment (08 November 2006).

The objection to claims 12-14, 24-26, as set forth at page 4 of the previous Office Action (08 May 2006), is *withdrawn* in view of the amendment (08 November 2006).

NEW CLAIM REJECTIONS/OBJECTIONS

35 U.S.C. § 112, First Paragraph, Scope of Enablement

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-6, 9, 11-15, 17-20, 22-26 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for:

a method for protection of an excitable tissue in a mammal having a neurodegenerative condition, comprising administering peripherally to said mammal, an amount of EPO effective for the protection of the excitable tissue, wherein said administration does not increase the hematocrit in said mammal (or an effective non-toxic amount of EPO), wherein said peripheral administration is intravenous

and

a method for protection of an excitable tissue in a mammal having mechanical trauma, diabetic neuropathy or amyotrophic lateral sclerosis, comprising administering peripherally to said mammal, an amount of EPO effective for the protection of the excitable tissue, wherein said administration does not increase the hematocrit in said mammal (or an effective non-toxic amount of EPO), wherein said peripheral administration is intravenous

does not reasonably provide enablement for the instant claims as recited.

The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The specification teaches excitable tissue as central nervous system tissue, peripheral nervous system tissue and heart tissue (page 5, lines 4-9).

Example 5 teaches the administration of EPO to mice 24 hours before blunt trauma, at the time of blunt trauma and 3, 6, or 9 hours later. When animals

were pre-treated with EPO or given EPO up to 3 hours after injury, the volume of brain necrosis was less than the control.

Example 4 teaches the middle cerebral artery (MCA) rat model, which is an animal model for stroke/cerebral ischemia. The middle cerebral artery was occluded by clamping for 1 hour. EPO was administered at various times before and immediately after the occlusion. EPO protects brain tissue form necrotic injury.

Example 7 teaches that experimental allergic encephalomyelitis (EAE) in rats is an art accepted animal model for multiple sclerosis (MS). Rats were immunized with pig myelin basic protein and heat killed mycobacterium tuberculosis. Rats were assessed for signs of EAE and scored for either no disease (0), flaccid tail (1), ataxia (2), and/or complete hind limb paralysis with urinary incontinence (3). Rats were administered EPO starting on day 3, post immunization and continued until day 18. Rats treated with EPO demonstrated an improvement in score versus the control.

The Brines Declaration (submitted 26 February 2003) teaches the administration of EPO in animal models for diabetic neuropathy and amyotrophic lateral sclerosis. The declaration teaches a reduction of the severity of the neurodegenerative symptoms in the animals after being administered EPO.

The instant specification fails to teach a method for protection of an excitable tissue in a mammal having a neurodegenerative condition/disease, comprising administering peripherally to said mammal, an amount of EPO effective for the protection of the excitable tissue, wherein said administration

does not increase the hematocrit in said mammal (or an effective non-toxic amount of EPO), wherein EPO is administered *(at least 4 hours to 24 hours) prior to a medical or surgical procedure* **(claims 11-14)** OR a method for protection of an excitable tissue in a mammal having mechanical trauma, diabetic neuropathy or amyotrophic lateral sclerosis, comprising administering peripherally to said mammal, an amount of EPO effective for the protection of the excitable tissue, wherein said administration does not increase the hematocrit in said mammal (or an effective non-toxic amount of EPO), wherein EPO is administered *(at least 4 hours to 24 hours) prior to a medical or surgical procedure* **(claims 23-26).** The instant claims encompass EPO protection of excitable tissue in a mammal having a neurodegenerative condition/disease prior to having a medical/surgical procedure. The instant examples fail to demonstrate that upon EPO administration, excitable tissue in a mammal suffering from a degenerative condition/disease also can be protected from a medical or surgical procedure. The teachings from the animal models are not equivalent to the breadth of the instant claims.

Lastly, claims 4, 5, 18 and 19 are not enabled because the specification and the art of record fail to teach that EPO can cross the blood/brain in routes besides intravenously and intracranially. The specification and art of record fail to teach/demonstrate that EPO can cross the blood/brain barrier via different routes of administration (i.e. oral, topical, intraluminal, inhalation, parenteral) and protect excitable tissue in a mammal having a neurodegenerative condition. Parenteral administration would not only include intravenous but also intra-arterial,

intramuscularly, submucosal, intradermal, intraperiotoneal, and subcutaneous administration.

Due to the large quantity of experimentation necessary to demonstrate that EPO can protect excitable tissue in a mammal having a neurodegenerative condition/disease prior to having a medical or surgical procedure, the large quantity of experimentation necessary to demonstrate that EPO can cross the blood/brain barrier via other routes of administration and protect excitable tissue in a mammal having a neurodegenerative condition, the lack of direction/guidance presented in the specification regarding same, the absence of working examples directed to same, the complex nature of the invention, and the breadth of the claims which fail to recite parameters regarding other routes of EPO administration and limitations regarding EPO protection of excitable tissue in mammals having neurodegenerative condition/disease prior medical or surgical procedures, undue experimentation would be required of the skilled artisan to make and/or use the claimed invention in its full scope.

Claim Rejections-35 USC 112, First Paragraph, Written Description (New Matter)

Claims 11-14, 23-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the

time the application was filed, had possession of the claimed invention. **This is a new matter rejection.**

The specification as originally filed does not provide support for the invention as now claimed:

a method for protection of an excitable tissue in a mammal having a neurodegenerative condition, comprising administering peripherally to said mammal an amount of EPO effective for the protection of the excitable tissue, wherein said administering does not increase the hematocrit in said mammal, wherein the EPO is administered prior to a medical or surgical procedure **(claim 11).**

a method for protection of an excitable tissue in a mammal having a neurodegenerative condition, comprising administering peripherally to said mammal an effective non-toxic amount of EPO for the protection of the excitable tissue, wherein the EPO is administered at least one time 4 hours to 24 hours prior to a medical or surgical procedure **(claim 12)** or wherein the medical procedure is labor or childbirth **(claim 13)** or wherein the surgical procedure is tumor resection, aneurysm repair or a coronary artery bypass procedure **(claim 14).**

a method for protection of an excitable tissue in a mammal having mechanical trauma, diabetic neuropathy or amyotrophic lateral sclerosis, comprising administering peripherally to said mammal an amount of EPO effective for the protection of the excitable tissue, wherein said administering

does not increase the hematocrit in said mammal, wherein the EPO is administered prior to a medical or surgical procedure" **(claim 23).**

a method for protection of an excitable tissue in a mammal having mechanical trauma, diabetic neuropathy or amyotrophic lateral sclerosis, comprising administering peripherally to said mammal an effective non-toxic amount of EPO for the protection of the excitable tissue, wherein the EPO is administered at least one time 4 hours to 24 hours prior to the medical or surgical procedure **(claim 24)** or wherein the medical procedure is labor or childbirth **(claim 25)** or wherein the surgical procedure is tumor resection, aneurysm repair, or a coronary artery bypass procedure **(claim 26).**

Applicant's amendment, (filed 20 October 2004; 03 November 2004, and 08 November 2006, asserts that no new matter has been added and directs support to an assortment of pages in the specification for written description for the above-mentioned "limitations". The Examiner has located in the specification a method wherein administration of EPO may be used to prevent injury or tissue damage during surgical procedures; tumor resection or aneurysm repair (page 5, line 35-page 6, line 2) or radiation damage to the brain (page 14, lines 3-4) . The specification also teaches protection of the brain from hypoxic injury sustained during birth, suffocation, drowning and child labor (page 14, lines 5-14, lines 21-27).

Applicant's cited pages do not provide sufficient direction for the written description for the above-mentioned "limitations" because the instant claims read on EPO protection of excitable tissue in a mammal having a neurodegenerative

condition/disease prior to having a medical/surgical procedure (i.e. subject has a neurodegenerative condition/disease, EPO is administered to said subject before a medical/surgical procedure, EPO protects tissue from injury resulting from medical/surgical procedure).

The Examiner cannot find a method of protecting excitable tissue in a mammal who already has a neurodegenerative disease (or mechanical trauma, diabetic neuropathy, or amyotrophic lateral sclerosis), wherein EPO is administered prior to a medical procedure (labor or childbirth) or surgical procedure (tumor resection, aneurysm repair or coronary artery bypass procedure). Furthermore, the Examiner cannot find anywhere in the specification, a method of protecting excitable tissue in a mammal who already has a neurodegenerative disease (or mechanical trauma, diabetic neuropathy, or amyotrophic lateral sclerosis), wherein EPO is administered at least one time 4 hours to 24 hours prior to a medical procedure (labor or childbirth) or surgical procedure (tumor resection, aneurysm repair or coronary artery bypass procedure).

The specification as filed does not provide a written description or set forth the metes and bounds of this "limitations". The instant claims now recite limitations which were not clearly disclosed in the specification as filed, and now change the scope of the instant disclosure as-filed.

Applicant is required to cancel the new matter in the response to this Office action. Alternatively, Applicant is invited to **provide specific written**

support for the "limitations" indicated above or rely upon the limitations set forth in the specification as filed.

Claim Rejections - 35 USC § 112, Second Paragraph

Claims 1, 12, 15 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The instant claims are indefinite because of the recitation, "does not increase the hematocrit in said animal" (claims 1, 15) and "an effective non-toxic amount" (claims 12, 24). Would an amount of EPO that does not increase the hematocrit in an animal be considered non-toxic? Would an effective non-toxic amount of EPO still raise the hematocrit in an animal? The metes and bounds of the instant claims are cannot be determined.

The instant claims also raise the question of similar scope. If the claims are not of similar scope, Applicant is asked to specifically point in the specification, the patentable distinction between the claims.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina M. DeBerry whose telephone number is (571) 272-0882. The examiner can normally be reached on 9:00 a.m.-6:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda G. Brumback can be reached on (571) 272-0961. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RMD
1/29/07

MARIANNE P. ALLEN
PRIMARY EXAMINER
AU 1647

1/30/07